

---

# Titan Conditions for the IPPW-6 Short Course Exercise

Prepared by David Atkinson, Univ. Idaho

## **Zonal Winds vs. Altitude**

Ref: Bird, M.K., et al. "The vertical profile of winds on Titan," Nature 438, 800-802, 8 December, 2005.

Ref: [http://pds-atmospheres.nmsu.edu/cgi-bin/getdir.pl?dir=index&volume=hpdwe\\_0001](http://pds-atmospheres.nmsu.edu/cgi-bin/getdir.pl?dir=index&volume=hpdwe_0001)

## **Pressure/Density/Temperature vs. Altitude**

Ref: Fulchignoni, M., et al. "In situ measurements of the physical characteristics of Titan's environment", Nature 438, 785-791, 8 December, 2005.

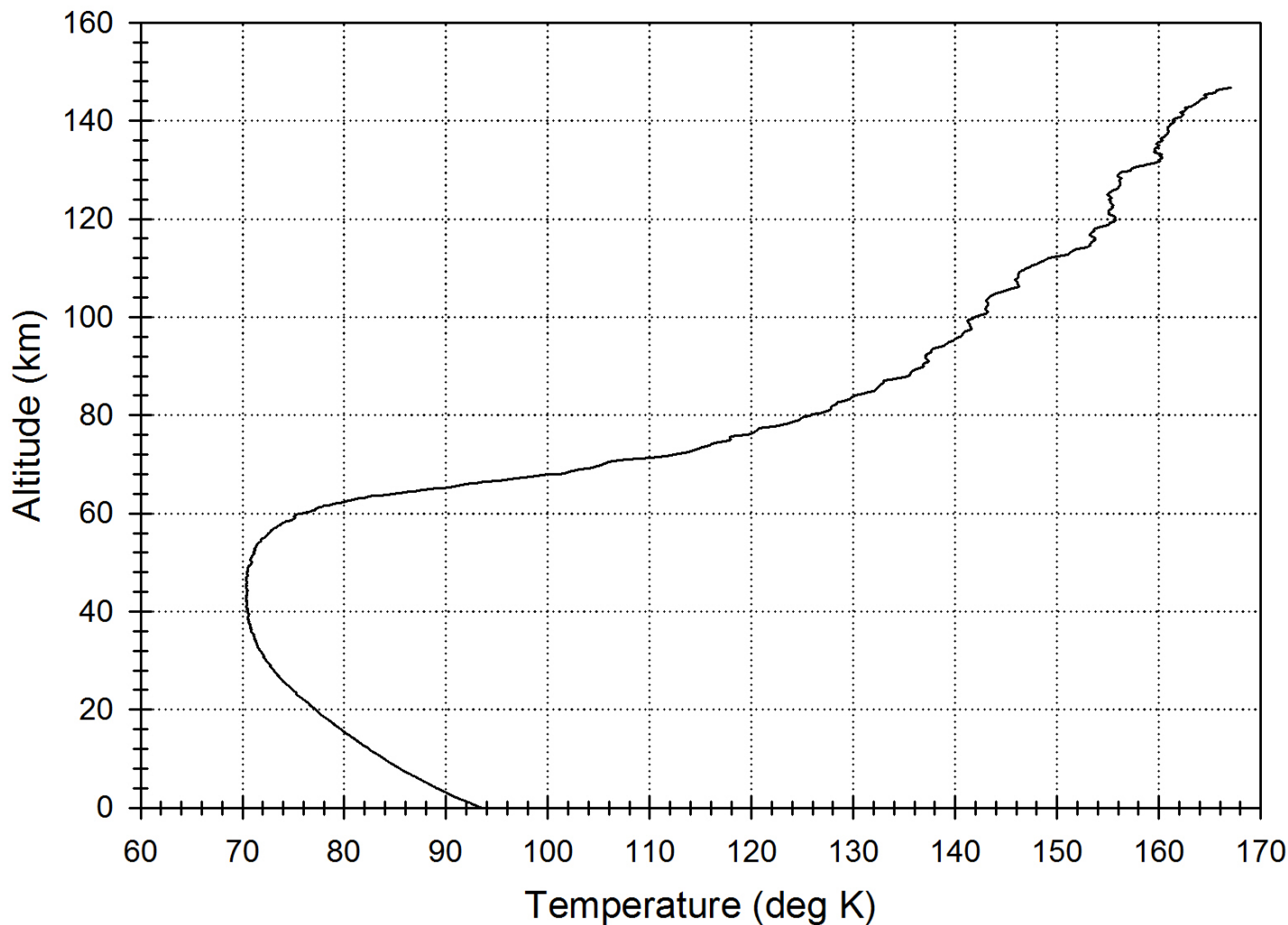
Ref: [http://pds-atmospheres.nmsu.edu/cgi-bin/getdir.pl?dir=DATA&volume=hphasi\\_0001](http://pds-atmospheres.nmsu.edu/cgi-bin/getdir.pl?dir=DATA&volume=hphasi_0001)

# Titan Conditions

Alt	Temperature	Pressure	Density
z (km)	T (deg K)	P (bars)	rho (Kg/m-3)
0.0	93.50	0.0029	5.3446
0.5	92.90	0.0032	5.2432
1.0	92.35	0.0042	5.1438
2.0	91.11	0.0054	4.9578
3.0	90.08	0.0071	4.7662
4.0	89.09	0.0095	4.5746
5.0	88.19	0.0129	4.3846
6.0	87.29	0.0178	4.2025
8.0	85.47	0.0422	3.8525
10.0	83.92	0.1453	3.5240
15.0	80.35	0.1990	2.7999
20.0	77.18	0.2722	2.1798
25.0	74.42	0.3693	1.6768
30.0	72.31	0.4972	1.2663
35.0	71.10	0.6641	0.9371
40.0	70.50	0.8746	0.6927
50.0	70.90	0.9244	0.3661
60.0	75.73	0.9743	0.1857
70.0	105.40	1.0283	0.0820
80.0	125.75	1.0836	0.0478
90.0	136.93	1.1412	0.0317
100.0	141.95	1.2013	0.0227
120.0	155.71	1.3289	0.0118
140.0	161.33	1.4315	0.0068
145.0	164.68	1.4665	0.0059

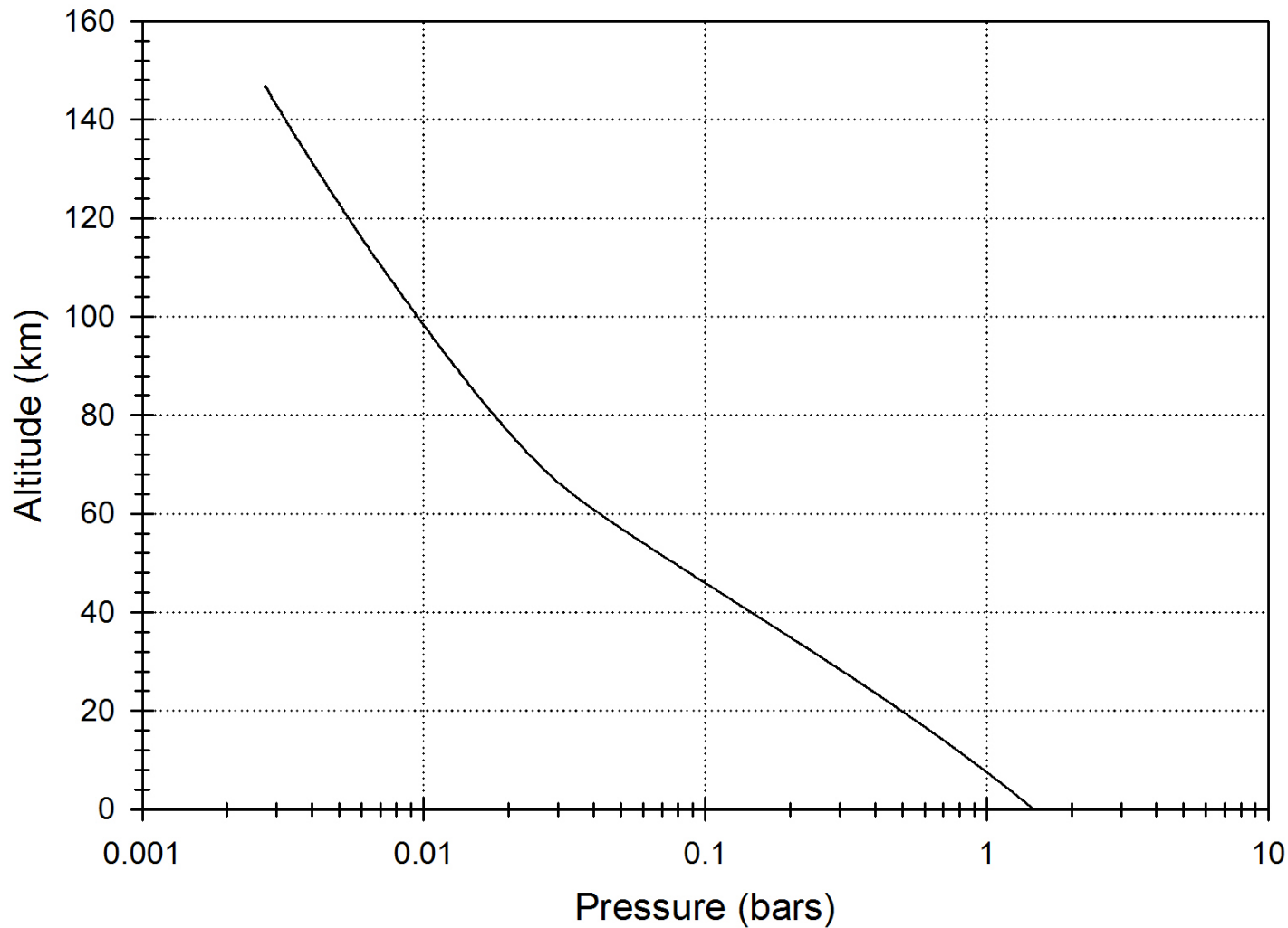
Alt	Zonal
z (km)	V (m/s)
0.0	0.055
1.0	-0.501
2.0	-0.875
3.0	-1.800
4.0	-0.492
13.1	2.381
14.9	2.780
20.3	4.112
25.0	6.166
25.0	6.289
29.8	8.876
35.0	13.144
40.5	18.029
50.0	27.204
60.0	37.184
70.0	13.271
80.0	14.865
90.0	42.141
99.9	56.684
110.0	64.195
120.0	105.502
130.6	95.752
140.0	103.201
144.0	98.007

# Titan Temperatures



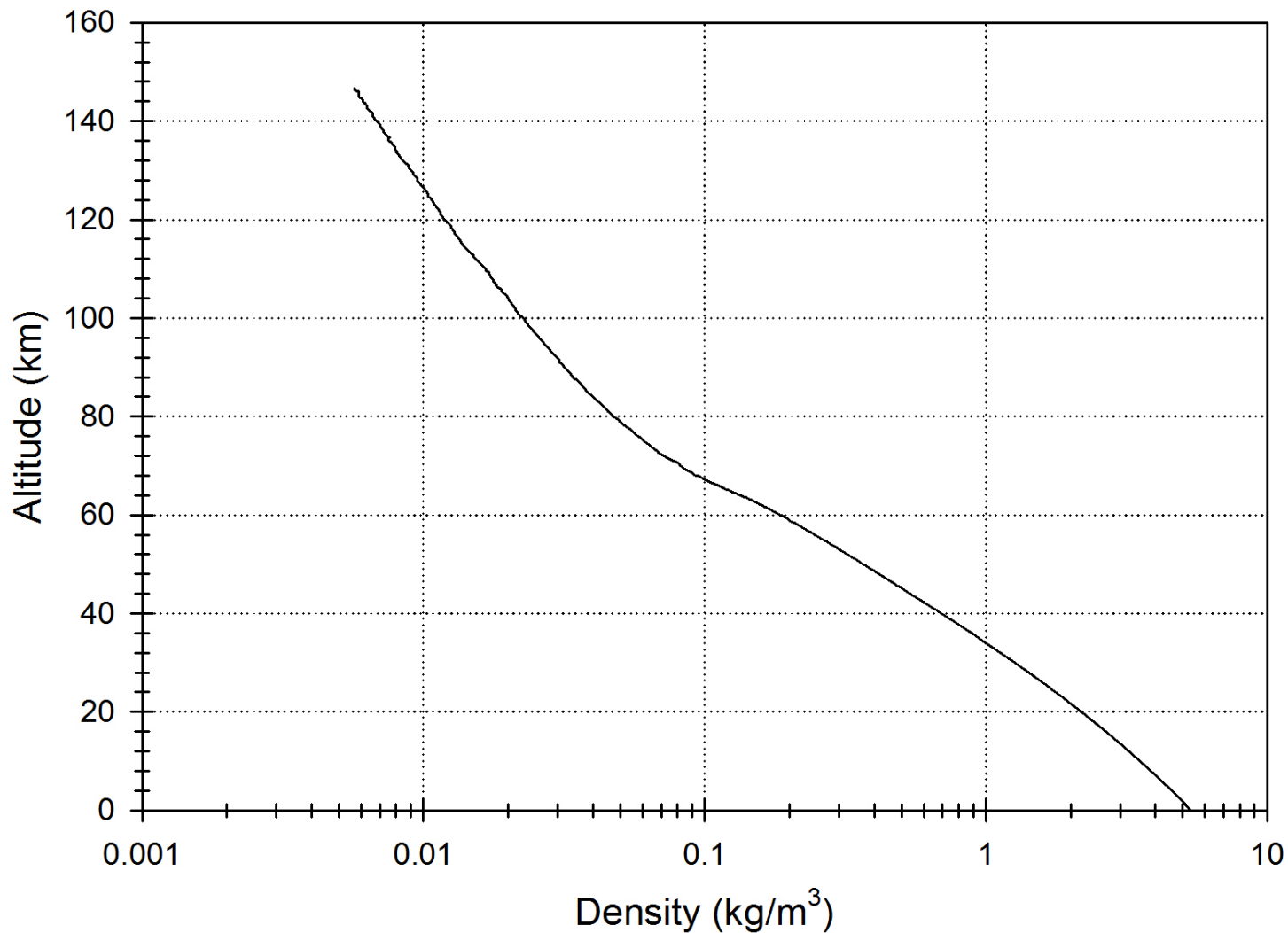
Ref: Fulchignoni, M., et al. "In situ measurements of the physical characteristics of Titan's environment", Nature 438, 785-791, 8 December, 2005.

# Titan Pressures



Ref: Fulchignoni, M., et al. "In situ measurements of the physical characteristics of Titan's environment", Nature 438, 785-791, 8 December, 2005.

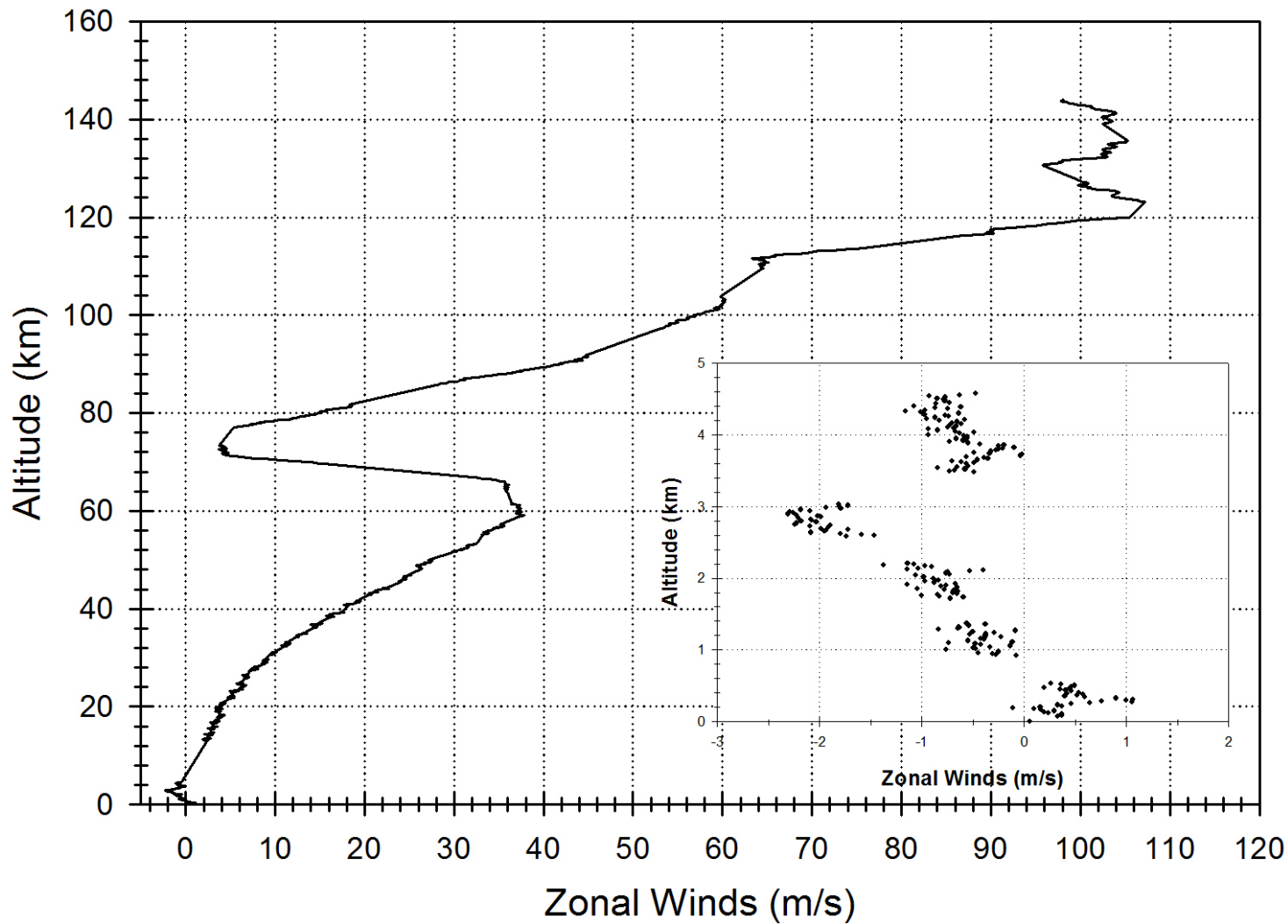
# Titan Densities



Ref: Fulchignoni, M., et al. "In situ measurements of the physical characteristics of Titan's environment", Nature 438, 785-791, 8 December, 2005.

Preliminary - For Discussion Purposes Only

# Titan Zonal Winds



Ref: Bird, M.K., et al. "The vertical profile of winds on Titan," Nature 438, 800-802, 8 December, 2005